

CLAIMS FOR US

1. An electric hammer comprising:

a hammer bit,

5 a driving motor,

a crank mechanism that drives a striker by converting a rotating output of the driving motor to linear motion in the axial direction of the hammer bit and

a counter weight that is detachably mounted to the crank mechanism and serves to reduce vibration of the striker.

10

2. The electric hammer as defined in claim 1, further comprising a dynamic vibration reducer having a body, a weight that is housed in the body and an elastic element that connects the weight to the body, the dynamic vibration reducer being detachably mounted to the hammer.

15 3 The electric hammer as defined in claim 2, wherein the counter weight is adapted to reciprocate in a direction opposite to the reciprocating direction of the striker when load is applied to the hammer bit and the dynamic vibration reducer is adapted to reduce vibration from the reciprocating motions of the striker and the counter weight when no load is applied to the hammer bit.

20

4. The electric hammer as defined in claim 1, wherein the crank mechanism includes a gear that is drivingly rotated by an output shaft of the driving motor, an eccentric pin that is eccentrically mounted on the gear and revolves with rotation of the gear and a crank arm, one end of the crank arm being connected to the eccentric pin and the other end of the crank arm being
25 connected to the hammer bit striking mechanism, thereby causing the hammer bit striking

mechanism to reciprocate and thus driving the striker,

wherein the hammer further comprising a counter weight driving device, the counter weight driving device being removably connected to the eccentric pin and reciprocates in the axial direction of the hammer bit to drive the counter weight to reciprocate.

5

5. The electric hammer as defined in claim 4, wherein the counter weight driving device has an eccentric pin sliding groove, the eccentric pin being removably fitted in the eccentric pin sliding groove and allowed to slide with respect to the sliding groove.

10

6. The electric hammer as defined in claim 4, wherein the counter weight driving device has a second crank arm, one end of the second crank arm being removably connected to the eccentric pin and the other end of the second crank arm being connected to the counter weight.

15

7. The electric hammer as defined in claim 4, wherein the counter weight and the counter weight driving device are mounted and removed through the crank cap that is used to dispose the crank arm in the hammer body or through the opening formed above the crank mechanism.

8 An electric hammer comprising:

a hammer bit,

20

a driving motor,

a crank mechanism that drives a striker by converting a rotating output of the driving motor to linear motion in the axial direction of the hammer bit,

a counter weight that is detachably mounted to the crank mechanism and serves to reduce vibration of the striker and

25

a dynamic vibration reducer having a body, a weight that is housed in the body and an

elastic element that connects the weight to the body, the dynamic vibration reducer being detachably mounted to the hammer.

9 An electric hammer comprising:

5 a hammer bit,

a driving motor,

a crank mechanism that drives a striker by converting a rotating output of the driving motor to linear motion in the axial direction of the hammer bit,

10 a counter weight that is detachably mounted to the crank mechanism and serves to reduce vibration of the striker and

a dynamic vibration reducer having a body, a weight that is housed in the body and an elastic element that connects the weight to the body, the dynamic vibration reducer being detachably mounted to the hammer,

15 wherein the counter weight is adapted to reciprocate in a direction opposite to the reciprocating direction of the striker when load is applied to the hammer bit and the dynamic vibration reducer is adapted to reduce vibration from the reciprocating motions of the striker and the counter weight when no load is applied to the hammer bit.

10 An electric hammer comprising:

20 a hammer bit,

a driving motor,

a crank mechanism that includes a gear that is drivingly rotated by an output shaft of the driving motor, an eccentric pin that is eccentrically mounted on the gear and revolves with rotation of the gear and a crank arm, one end of the crank arm being connected to the eccentric pin and the
25 other end of the crank arm being connected to the hammer bit striking mechanism, thereby

causing the hammer bit striking mechanism to reciprocate and thus driving the striker,

a counter weight that is detachably mounted to the crank mechanism and serves to reduce vibration of the striker and

a counter weight driving device that is removably connected to the eccentric pin and
5 reciprocates in the axial direction of the hammer bit to drive the counter weight to reciprocate.

11 An electric hammer comprising:

a hammer bit,

a driving motor,

10 a crank mechanism that includes a gear that is drivingly rotated by an output shaft of the driving motor, an eccentric pin that is eccentrically mounted on the gear and revolves with rotation of the gear and a crank arm, one end of the crank arm being connected to the eccentric pin and the other end of the crank arm being connected to the hammer bit striking mechanism, thereby causing the hammer bit striking mechanism to reciprocate and thus driving the striker,

15 a counter weight that is detachably mounted to the crank mechanism and serves to reduce vibration of the striker and

a counter weight driving device that is removably connected to the eccentric pin and reciprocates in the axial direction of the hammer bit to drive the counter weight to reciprocate, wherein the counter weight driving device has an eccentric pin sliding groove, the eccentric pin
20 being removably fitted in the eccentric pin sliding groove and allowed to slide with respect to the sliding groove.

12 An electric hammer comprising:

a hammer bit,

25 a driving motor,

a crank mechanism that includes a gear that is drivingly rotated by an output shaft of the driving motor, an eccentric pin that is eccentrically mounted on the gear and revolves with rotation of the gear and a crank arm, one end of the crank arm being connected to the eccentric pin and the other end of the crank arm being connected to the hammer bit striking mechanism, thereby
5 causing the hammer bit striking mechanism to reciprocate and thus driving the striker,

a counter weight that is detachably mounted to the crank mechanism and serves to reduce vibration of the striker and

a counter weight driving device that is removably connected to the eccentric pin and reciprocates in the axial direction of the hammer bit to drive the counter weight to reciprocate,
10 wherein the counter weight driving device has a second crank arm, one end of the second crank arm being removably connected to the eccentric pin and the other end of the second crank arm being connected to the counter weight.

13 An electric hammer comprising:

15 a hammer bit,

a driving motor,

a crank mechanism that includes a gear that is drivingly rotated by an output shaft of the driving motor, an eccentric pin that is eccentrically mounted on the gear and revolves with rotation of the gear and a crank arm, one end of the crank arm being connected to the eccentric pin and the
20 other end of the crank arm being connected to the hammer bit striking mechanism, thereby causing the hammer bit striking mechanism to reciprocate and thus driving the striker,

a counter weight that is detachably mounted to the crank mechanism and serves to reduce vibration of the striker and

a counter weight driving device that is removably connected to the eccentric pin and
25 reciprocates in the axial direction of the hammer bit to drive the counter weight to reciprocate,

wherein the counter weight and the counter weight driving device are mounted and removed through the crank cap that is used to dispose the crank arm in the hammer body or through the opening formed above the crank mechanism.

5 14 An electric hammer comprising:

 a hammer bit,

 a driving motor,

 a crank mechanism that includes a gear that is drivingly rotated by an output shaft of the driving motor, an eccentric pin that is eccentrically mounted on the gear and revolves with rotation
10 of the gear and a crank arm, one end of the crank arm being connected to the eccentric pin and the other end of the crank arm being connected to the hammer bit striking mechanism, thereby causing the hammer bit striking mechanism to reciprocate and thus driving the striker,

 a counter weight that is detachably mounted to the crank mechanism and serves to reduce vibration of the striker,

15 means for driving a counter weight that is removably connected to the eccentric pin and reciprocates in the axial direction of the hammer bit to drive the counter weight to reciprocate and

 a dynamic vibration reducer having a body, a weight that is housed in the body and an elastic element that connects the weight to the body, the dynamic vibration reducer being detachably mounted to the hammer

20 wherein the counter weight is adapted to reciprocate in a direction opposite to the reciprocating direction of the striker when load is applied to the hammer bit and the dynamic vibration reducer is adapted to reduce vibration from the reciprocating motions of the striker and the counter weight when no load is applied to the hammer bit.